

What is claimed is:

1. A multi-anode type photomultiplier tube comprising:

a faceplate made from glass;

5 a side tube made from glass and having a hollow shape extending along a tube axis which is substantially perpendicular to the faceplate, the side tube being joined to one surface of the faceplate;

10 a photocathode formed on an inner region of the one surface of the faceplate in the side tube to emit a photoelectron in response to light incident on the faceplate;

15 a partitioning wall having a predetermined length extending from a boundary of a plurality of regions on the faceplate along a tube axial direction;

20 a plurality of electron multiplying portions provided in the side tube, the plurality of electron multiplying portions corresponding to the plurality of regions on the faceplate for multiplying the photoelectron emitted from the photocathode; and

a plurality of anodes provided in the side tube, the plurality of anodes corresponding to the plurality of regions on the photocathode for receiving an electron emitted from the plurality of electron multiplying portions,
25 wherein

each of the plurality of electron multiplying portions includes:

5 a first dynode provided in the vicinity of the side tube in the side tube for multiplying the photoelectron impinging thereon from the photocathode to emit a secondary electron;

10 a second dynode provided in the vicinity of the tube axis in the side tube for multiplying the secondary electrons impinging thereon from the first dynode to emit secondary electrons; and

a plurality dynodes in the side tube for multiplying the secondary electrons impinging thereon from the second dynode in turn to emit secondary electrons; wherein the multi-anode photomultiplier tube further comprises:

15 a shield electrode provided between the second dynode and the photocathode for shielding the second dynode from the photocathode;

the photocathode, the partitioning wall, and the shield electrode are maintained at a same potential.

20 2. The photomultiplier tube according to Claim 1, wherein the shield electrode has an aperture to adjust an electric field in the side tube, thereby reducing transit time differences among electrons which are emitted from the photocathode to impinge on the first dynode

25 3. The photomultiplier tube according to Claim 1,

further comprising a flat electrode provided between the shield electrode and the second dynode, the flat electrode having an aperture which enables an electron to pass therethrough to the first dynode.

5 4. The photomultiplier tube according to Claim 3, wherein the shield electrode has an aperture to adjust an electric field in the side tube, thereby reducing transit time differences among electrons which are emitted from the photocathode to impinge on the first dynode.

10 5. The photomultiplier tube according to Claim 3, wherein the aperture of the flat electrode is provided with an electrically conductive mesh member.

15 6. The photomultiplier tube according to Claim 3, wherein the shield electrode has an aperture to adjust an electric field in the side tube, thereby reducing transit time differences among electrons which are emitted from the photocathode to impinge on the first dynode.

20 7. The photomultiplier tube according to Claim 3, wherein the flat electrode is maintained at a potential which is higher than a potential of the first dynode and less than or equal to a potential of the second dynode.

25 8. The photomultiplier tube according to Claim 7, wherein the shield electrode has an aperture to adjust an electric field in the side tube, thereby reducing transit time differences among electrons which are emitted from the

photocathode to impinge on the first dynode.

9. The photomultiplier tube according to Claim 5,
wherein the flat electrode is maintained at a potential
which is more than or equal to a potential of the first
5 dynode and less than a potential of the second dynode.

10. The photomultiplier tube according to Claim 9,
wherein the shield electrode has an aperture to adjust an
electric field in the side tube, thereby reducing transit
time differences among electrons which are emitted from the
10 photocathode to impinge on the first dynode.